

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

FACT SHEET



UNITED STATES
DEPARTMENT
OF AGRICULTURE

Jointed Goatgrass— How to Control It

Jointed goatgrass¹ is a winter annual weed that is rapidly spreading in the winter wheat areas. The weed competes with winter wheat for moisture and fertility, and it greatly reduces grain yields. Jointed goatgrass seed has reduced by 15 percent or more the amount growers are paid for winter wheat at the grain elevator.

Jointed goatgrass is found mostly in wheat fields, but it spreads to roadsides, waste areas, alfalfa fields, and grassland areas. It is spread by seed and has been introduced to some areas by custom combines and to others in wheat seed. Originally from Asia, jointed goatgrass was first found growing with wheat in Geary County, Kansas, in 1937. It adapted to the local climate and spread to adjacent areas.

Cultural Control

1. Make sure harvesting equipment is free of weed seed before moving it into fields.
2. Destroy small infestations of jointed goatgrass in winter wheat fields.
3. Change the crop for at least 2 years to a late spring crop, such as millet or sorghum. To prevent goatgrass seed production, the infested area must not be planted

to fall-sown grains. Jointed goatgrass seed may remain viable in the soil for several years. Therefore, to prevent reinfestation, the crop must be changed for at least 3 years. It will help to rotate with such crops as sorghum, corn, other row crops, or a crop, such as millet, which is planted late in spring.

4. Use a winter wheat-fallow cropping sequence.
5. Do not let jointed goatgrass produce seed.
6. Prevent seed production of jointed goatgrass in areas near the field, such as in roadsides and waste areas.

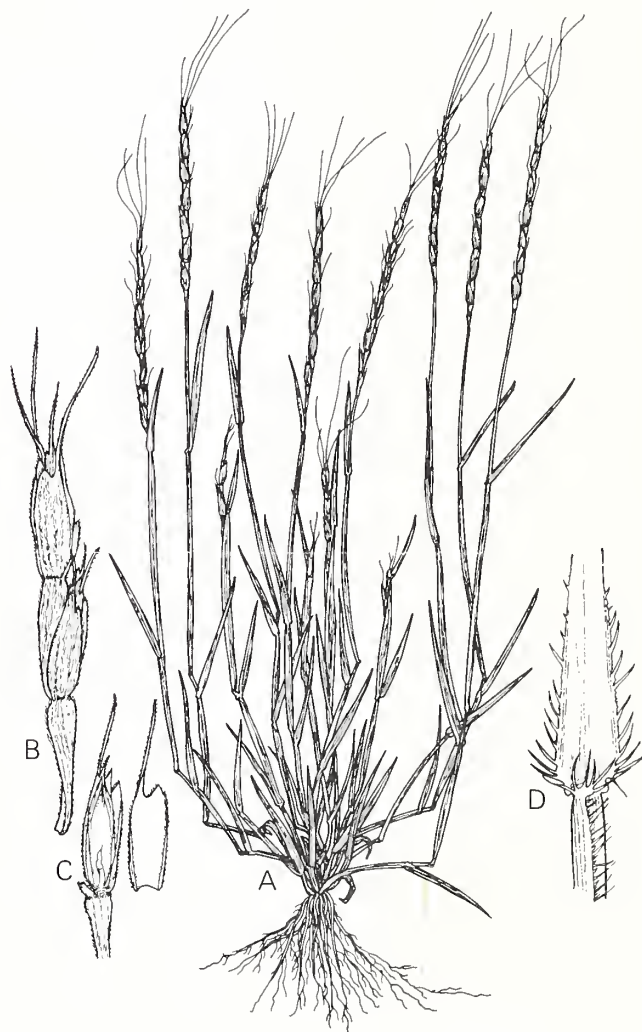


Figure 1—Jointed Goatgrass. A, Habit; B, spike detail; C, floret; D, ligule.

¹The scientific name for jointed goatgrass has been *Aegilops cylindrica* Host and, more recently, *Triticum cylindricum* Ces., Pass., Gib.

7. If rain occurs near planting time, wait a few days for the jointed goatgrass seed to germinate. The new seedling plants can then be killed with tillage before you plant the wheat.

8. Plant clean wheat seed. Plant at the latest recommended date.

Control with Herbicides (on Noncropland)

Apply recommended amounts per acre of active ingredient of atrazine (several trade names), Princep (simazine), Pramitol (prometon), Telvar (monuron), or Hyvar (bromacil) in enough water to give good coverage. Preemergence or early postemergence applications may be made in the fall or early in spring. Spring applications should be made before the plants are 51mm (2 inches) high. Excellent preemergence control usually results when at least 13mm (one-half inch) of rain falls soon after applications.

Caution: In Nebraska, at rates of 0.9 kg (2 pounds) per acre, AAtrex and Princep have carried over in the soil for periods of more than 1 year. Pramitol and Telvar usually carry over in the soil for several years in that State.

Description

Jointed goatgrass is very similar to wheat, except for its spike. Leaves are alternate, simple, with auricles at the base of the blade. The ligule and blade can be smooth or hairy. In Nebraska, occasional hairs extend from the margin of the blade. The spikelet has from two to four flowers that are arranged in a cylindrical spike. The glumes on the uppermost spikelet have long awns. Seed ripens before winter wheat and shatters easily.

Studies at the University of Nebraska indicate jointed goatgrass has the highest germination at temperatures of 10° to 30°C (50° to 86°F). Some germination will occur at temperatures as low as 2°C (35.6°F) and as high as 40°C (104°F).

Using a Keith and Trip very fine, sandy loam soil, a study indicated the optimum depth of soil cover for seedling emergence was from 9 to 5 cm (2 inches). Ten percent of the seed still germinated with a 13-cm (5-inch) soil covering. Some seed buried in soil at 22 cm (8.7 inches) for 3 years was still viable.

The seed is very difficult to separate from wheat. Length graders are the most efficient method of separating jointed goatgrass seed from wheat. However, they are slow and not 100-percent efficient.

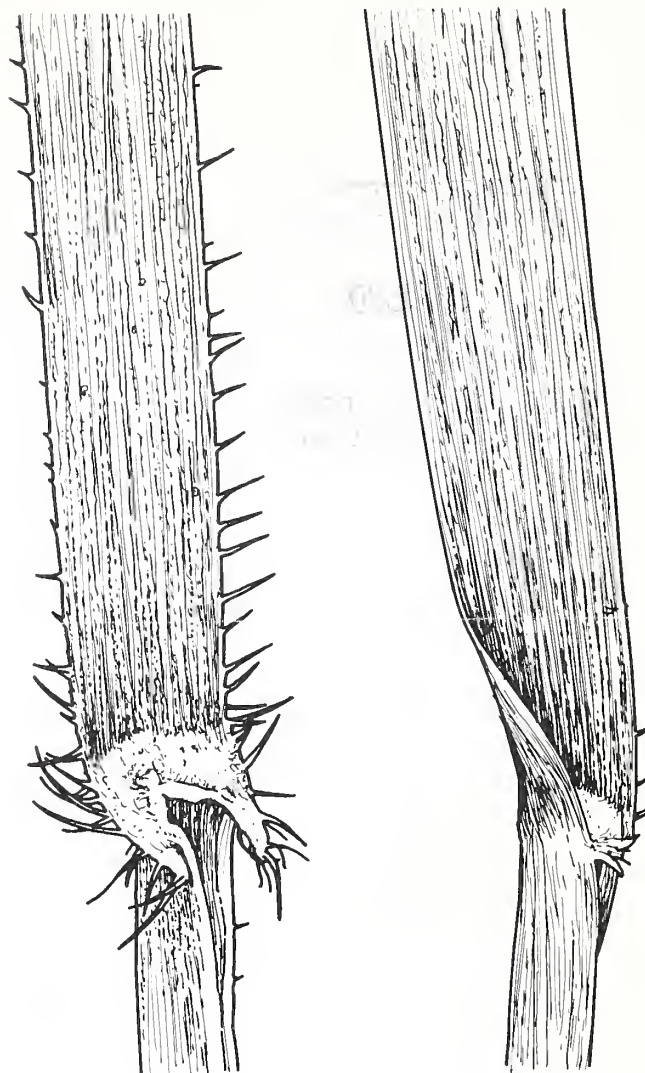


Figure 2—Jointed goatgrass (left); wheat (right).

Trade names are used in this publication solely to provide specific information. Mention of a trade name does not constitute a guarantee of the product by the U.S. Department of Agriculture nor does it imply an endorsement by the Department over comparable products that are not named.

This publication was prepared by the USDA Science and Education Administration in cooperation with the Wheat Industry Resource Committee and the National Association of Wheat Growers.